Oct. 21, 1941.

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2,259,931

FOUNTAIN COMB OR LIQUID APPLICATOR

Filed March 17, 1941

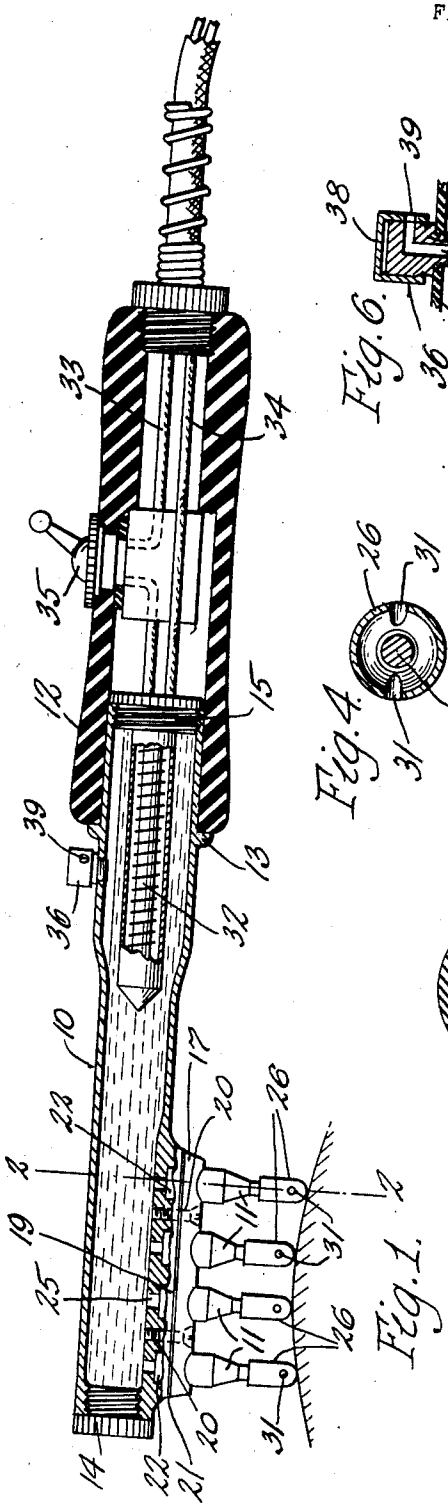


Fig. 1.

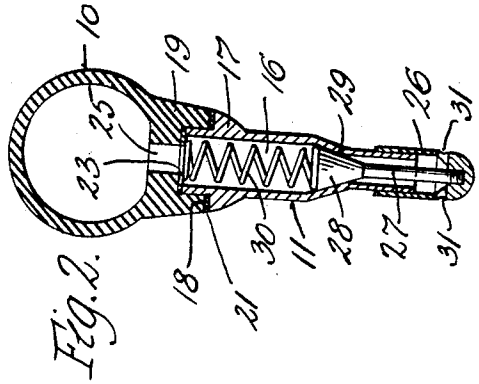


Fig. 2.

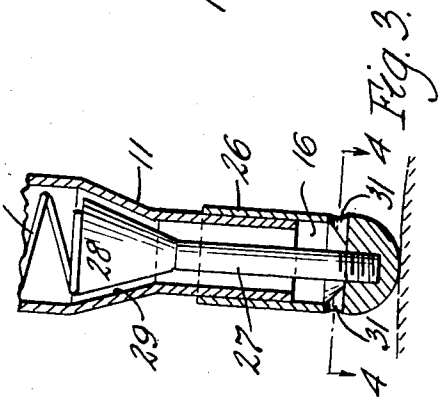


Fig. 3.

Fig. 4.

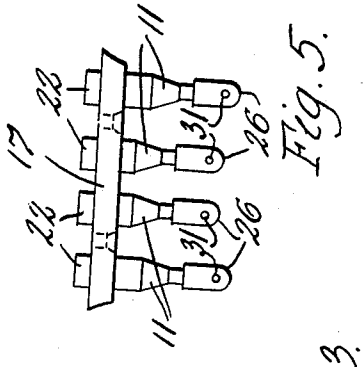


Fig. 5.

Fig. 6.

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Patented Oct. 21, 1941

2,259,931

UNITED STATES PATENT OFFICE

2,259,931

FOUNTAIN COMB OR LIQUID APPLICATOR

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Application March 17, 1941, Serial No. 383,722

7 Claims. (Cl. 132—13)

This invention relates to improvements in fountain combs or devices, used for treating the hair or scalp with oil, tonic or other liquids, which comprise a container for the liquid, and teeth adapted to be moved through the hair and provided with discharge ducts for delivering the liquid on the scalp or at the roots of the hair.

A principal object of the invention is to provide an improved fountain comb or applicator of this character which is of novel construction, whereby the scalp or the roots of the hair can be efficiently treated and the delivery of the liquid thereto nicely regulated as desired, and clogging or stopping of the discharge orifices of the teeth prevented.

Other objects of the invention are to make the device of a novel construction which adapts it to be used for massaging and treating the scalp without irritation and without clogging the liquid delivery orifices of the teeth with dandruff or other matter; in which the outer ends of the teeth and of their discharge passages are covered by protecting caps provided with smooth, imperforate, outer ends adapting them for use in massaging the scalp without irritation; in which the several teeth are provided on a single tooth block or piece which is removably secured to the liquid receptacle or comb body so as to adapt all of the teeth with their discharge controlling valves to be readily attached and removed as a unit, thereby facilitating the assembly of the device and the quick, easy cleaning of the liquid delivery ducts or orifices and other parts of the device.

Further objects and advantages of the invention will appear from the following specification of the preferred embodiment thereof, shown in the accompanying drawing, and the novel features of the invention are set forth in the appended claims.

In said drawing:

Fig. 1 is a side elevation, partly in section, showing in approximately actual size, a fountain comb or applicator embodying my invention.

Fig. 2 is an enlarged, transverse section thereof on line 2—2, Fig. 1.

Fig. 3 is a section of one tooth and its cap on a still larger scale.

Fig. 4 is a transverse section thereof on line 4—4, Fig. 3.

Fig. 5 is a side elevation of the tooth block and teeth detached.

Fig. 6 is a sectional view of the air vent for the liquid receptacle.

The comb comprises a hollow body 10 which provides a receptacle for the oil, tonic or other liquid, and teeth 11 which project from one side of the body and are provided with ducts or passages communicating with the receptacle for delivering the liquid from the receptacle through the teeth. Preferably the body 10 is in the form of a slender tube provided at one end with a handle 12, which may be made of wood, Bakelite or other preferably non-conducting material, and of a shape adapting the comb to be comfortably held in the hand while manipulating or using it. As shown, the handle is of tubular form and the receptacle body 10 is secured thereto by inserting one end of the body tube with a tight fit in the cavity of the handle. A circumferential collar 13, which is shown on the body 10, fits tightly against the end of the handle to prevent any liquid which might be present on the exterior of the body from entering the cavity of the handle. The body receptacle 10 shown, has a filling opening at its outer end, closed by a screw plug 14, and the inner end of the receptacle is also shown as closed by a screw plug or cap 15.

The teeth 11, which are tubular or have longitudinal passages or ducts 16 therein, are joined to and preferably made integral with a tooth block 17, which is removably secured to the body 10, against the outer face 18 of a boss or longitudinal thickened portion 19 at one side of the body, as by two screws 20 passing through holes in the block and screwed into threaded holes in the boss. A suitable packing gasket 21, clamped by the screws between the adjacent faces or marginal portions of the tooth block and boss, prevents leakage through the joint between these parts. Preferably the tooth block is provided at its inner side with tubular nipples 22, one in alinement with each tooth, which are adapted to fit snugly in sockets formed in the boss 19. Yielding washers 23 may also be used between the ends of the nipples 22 and the inner ends of the nipple sockets, if necessary, to further insure against leakage of liquid from the receptacle onto the outer surfaces of the comb. Holes 25 through the boss 19 or side of the receptacle establish communication between the interior thereof and the discharge ducts of the several teeth. The gasket 21 extends around all of the passages that connect the teeth with the liquid receptacle between continuous marginal faces or portions of the tooth block and body boss, and effectually prevents leakage of the liquid.

A movable cap 26 covers the outer end of each tooth and the outer end of the longitudinal duct thereof. This cap preferably surrounds and is

slidable in and out on the outer end of the tooth and is provided with a smooth and preferably rounded or semi-spherical, imperforate, outer end adapted to contact with and be moved against the scalp without irritating it. Each cap may be screwed or otherwise suitably secured to the outer end of a stem **27** which extends into the passage **16** of the tooth and is formed with or connected to a valve **28** adapted to cooperate with a seat **29** in the tooth passage for controlling the discharge of liquid from the tooth. Preferably the valve and seat are of conical shape, and the valve is normally held closed or against the seat to prevent the discharge of liquid, by a coil spring **30** arranged in the tooth and bearing at opposite ends against the valve and the inner end of the nipple socket in the boss **19**. The valve is opened or unseated to permit the discharge of liquid from the tooth by pressing the cap **26** inwardly, as by gently pressing the cap against the scalp. The construction and mounting of the cap is such that it provides an escape opening or orifice for the discharge of the liquid from the tooth, which opening is spaced back or upwardly from the outer end of the cap so as to prevent the same from becoming clogged or stopped with dandruff or foreign matter which may accumulate on the end of the cap in the use of the comb. For instance, the cap is provided with discharge orifices **31** in its side walls at a substantial distance back or upwardly from the end of the cap. When the cap is pressed inwardly and the valve is thus unseated or opened, the liquid can discharge from the tooth through the discharge orifices of the cap. As shown, the length of the several teeth varies so that the outer ends of the caps in their normal positions are disposed on an arc conforming to the contour of the scalp. Thus, the several teeth will normally contact simultaneously with the scalp in the use of the comb.

By the provision of the caps with the smooth or rounded, imperforate outer ends, they can be moved back and forth in contact with the scalp in the use of the comb so as to gently massage the scalp without irritating it, and they prevent dandruff or other foreign matter from getting into and clogging or stopping the discharge ducts or orifices of the teeth so as to interfere with the proper delivery of the liquid to the scalp or roots of the hair. Therefore, the treating liquid can be delivered, and its delivery controlled as desired, to the root ends of the hair or to the scalp only, without greasing or wetting the hair above its root end portions, and the comb can be used to gently massage the scalp without danger of clogging the discharge orifices of the teeth or injuring the scalp. By making the teeth integral with the tooth block **17** as shown, the latter and all of the teeth can be conveniently die-cast in a single piece, and the whole group of teeth together with the valves and caps carried thereby can be removed by simply unscrewing the two screws. This makes it possible to very quickly and easily clean the parts and prevent them from becoming clogged, fouled or gummed up with accumulating matter.

In order to enable the use in the comb of oils or liquids which may be too heavy or thick to flow readily at normal temperatures, the device, as heretofore known, may be provided with an electric heating element **32** which, as shown, extends into the liquid receptacle through the plug **15** at the inner end of the receptacle. This heating element may be of any known or any suitable construction and may be supplied with electric current by conductors **33** and **34**, under the control of a suitable switch **35**, which enables the operation of the heating element to heat the liquid as may be required. The liquid receptacle is also shown as provided with an air vent device **36** for admitting air to the receptacle when this is necessary, to insure proper delivery of the liquid from the teeth. In using the device with some liquids, a special air vent is not necessary and may not be desirable, while, with other liquids, it may be. The vent is therefore preferably constructed so that it can be opened or closed as required. The vent shown consists of a plug **37** screwed into a hole in the top or back of the liquid receptacle and equipped with a rotatable cap **38** having a hole **39** in one side of the cap adapted, by rotation of the cap, to be placed into or out of registration with an air passage **40** extending through the plug.

I claim as my invention:

1. In a fountain comb comprising a body forming a liquid receptacle, and a tooth projecting therefrom and having a liquid discharge passage communicating with the receptacle, a cap movably mounted on and covering the outer end of the tooth and having a smooth imperforate outer end adapted to contact the scalp and providing an escape opening spaced back from the outer end of the cap for the discharge of the liquid, and means actuated by said cap for controlling the discharge of liquid from the tooth.

2. In a fountain comb comprising a body forming a liquid receptacle, a tooth projecting therefrom and having a longitudinal liquid discharge passage communicating with the receptacle, and a valve controlling the flow of liquid from the receptacle through said tooth, a cap slidable on and covering the outer end of the tooth and having a smooth imperforate outer end adapted to contact with the scalp, and providing an escape opening spaced back from the outer end of the cap for the discharge of the liquid, and means actuated by pressure on said cap for opening said discharge valve.

3. In a fountain comb comprising a body forming a liquid receptacle, a tooth projecting therefrom and having a liquid discharge passage extending lengthwise through the tooth and communicating with the receptacle, and a valve controlling the flow of liquid through said passage, a cap slidable on the tooth and covering the outer end of said passage and having a smooth imperforate outer end adapted to contact with the scalp, said cap having an escape opening in its side back from the end of the cap for the discharge of the liquid, and a stem extending from said cap through said passage for opening said valve by pressure on said cap.

4. In a fountain comb comprising a slender tubular body forming a liquid receptacle, teeth projecting from one side thereof and having liquid discharge passages extending longitudinally therein and communicating with the receptacle, and a valve controlling discharge of the liquid from each tooth, a cap movably mounted on and covering the outer end of each tooth and having a smooth imperforate outer end adapted for contact with the scalp, and a stem extending from said cap in said tooth passage for opening the valve by pressure on the cap, said cap providing a discharge opening for the liquid spaced back from the outer end of the cap.

5. A fountain comb comprising a tubular body forming a liquid receptacle and provided with a

longitudinal boss along one side having a continuous outer face, a tooth block having a continuous face for connection with said outer face of the boss and having a plurality of hollow teeth integral with and projecting from the outer side of the block, the cavities of the teeth communicating with said receptacle and having valve seats therein, valves arranged in said teeth with springs to close the valves against said seats, and caps slidable on and covering the outer ends of the teeth, stems connecting said caps to said valves to open the valves by movement of the caps, said caps providing escape openings back from the ends of the caps for the discharge of the liquid, and means removably securing said tooth block to said body against said outer face thereof and enabling removal and attachment of the block with the several teeth and valves as a unit from and to said body.

6. In a fountain comb comprising a body forming a liquid receptacle, and a tooth projecting therefrom and having a liquid discharge passage communicating with the receptacle, a cap movably mounted on and covering the outer end of the tooth and having a smooth imperforate outer end adapted to contact the scalp and providing an escape opening spaced back from the outer end of the cap for the discharge of the liquid, and means for controlling the discharge of liquid from the tooth.

7. In a fountain comb comprising a body forming a liquid receptacle, a tooth projecting therefrom and having a discharge passage extending longitudinally through the tooth and communicating with the receptacle, and a valve for controlling the discharge of the liquid from the tooth, a stem connected to said valve and extending outwardly therefrom in said passage, and a cap secured to said stem and covering the outer end of said tooth passage, said cap having a smooth imperforate outer end adapted for contact with the scalp and providing an escape opening spaced back from the outer end of the cap for the discharge of the liquid.

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